

Applicant : Anthony J.F. D'Apice et al.
Serial No. : 08/984,900
Filed : December 4, 1997
Page : 3 of 8

Attorney's Docket No.: 06868-005002

In the claims:

Please amend the claims as follows:

1. (Previously amended) A purified and isolated nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of (1) nucleotides 91 -1203 of the porcine nucleic acid sequence with SEQ ID NO: 7, (2) a sequence encoding a porcine polypeptide having α -1,3 galactosyltransferase activity and having the amino acid sequence of SEQ ID NO:10, and (3) a sequence complementary to the sequence of (1) or (2).
2. (Previously amended) A host cell comprising a recombinant nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of (1) nucleotides 91 - 1203 of the porcine nucleic acid sequence with SEQ ID NO: 7, (2) a sequence encoding a porcine polypeptide having α -1,3 galactosyltransferase activity and having the amino acid sequence of SEQ ID NO:10, and (3) a sequence complementary to the sequence of (1) or (2), wherein the cell is *in vitro*.
3. (Previously amended) A porcine α -1,3 galactosyltransferase encoded by a nucleic acid molecule comprising a nucleic acid sequence selected from the group consisting of (1) nucleotides 91 -1203 of the porcine nucleic acid sequence with SEQ ID NO: 7, (2) a sequence encoding a porcine polypeptide having α -1,3 galactosyltransferase activity and having the amino acid sequence of SEQ ID NO:10, and (3) a sequence complementary to the sequence of (1) or (2), wherein the polypeptide is expressed from the cell of claim 2 and is encoded by the recombinant nucleic acid molecule.
4. – 45. (Previously cancelled)
46. (Previously amended) A DNA construct comprising a disrupted porcine α -1,3 galactosyltransferase gene, wherein the disruption is by insertion of an exogenous sequence into said gene such that the disruption prevents expression of functional α -1,3 galactosyltransferase, wherein the gene, prior to disruption, encodes a porcine α -1,3 galactosyltransferase with an amino acid sequence of SEQ ID NO:10.

Applicant : Anthony J.F. D'Apice et al.
Serial No. : 08/984,900
Filed : December 4, 1997
Page : 4 of 8

Attorney's Docket No.: 06868-005002

47. (Original) The DNA construct of claim 46, wherein said disruption is within exon 4, exon 7, exon 8, or exon 9 of the porcine α -1,3 galactosyltransferase gene.

48. (Original) The DNA construct of claim 46, wherein said exogenous sequence is a selectable marker.

49. (Original) The DNA construct of claim 48, wherein said selectable marker is selected from the group consisting of the neo^R gene and the hyg^R gene.

50. (Original) The DNA construct of claim 46, wherein said exogenous sequence is flanked at its 5' and 3' ends by FRT DNA elements, and wherein stop codons have been inserted 3' to the selectable marker for each of the three reading frames for the porcine α -1,3 galactosyltransferase gene.

51. (Previously and currently amended) A method for generating a porcine cell comprising at least one inactivated α -1,3 galactosyltransferase gene, the method comprising:

- (a) providing a plurality of porcine cells;
- (b) introducing into said cells *in vitro* the DNA construct of claim 46;
- (c) incubating said cells such that homologous recombination occurs between the chromosomal sequence encoding α -1,3 galactosyltransferase and the introduced DNA construct comprising the disrupted α -1,3 galactosyltransferase gene; and
- (d) identifying a porcine cell comprising at least one inactivated α -1,3 galactosyltransferase gene,

wherein the gene, prior to disruption, encodes a porcine α -1,3 galactosyltransferase with an amino acid sequence of SEQ ID NO:10.

52. -- 66. (Previously cancelled)

67. (Previously amended) A porcine cell comprising at least one disrupted α -1,3 galactosyltransferase gene, wherein the disruption is by insertion of an exogenous sequence into

Applicant : Anthony J.F. D'Apice et al.
Serial No. : 08/984,900
Filed : December 4, 1997
Page : 5 of 8

Attorney's Docket No.: 06868-005002

said gene such that the disruption prevents expression of functional α -1,3 galactosyltransferase and wherein the gene, prior to disruption, encodes the porcine α -1,3 galactosyltransferase with an amino acid sequence of SEQ ID NO:10, wherein the cell is *in vitro*.

68. – 69. (Previously cancelled)

70. (Previously amended) The porcine cell of claim 67, wherein said disruption is within exon 4, exon 7, exon 8, or exon 9 of the porcine α -1,3 galactosyltransferase gene.

71. (Previously amended) The porcine cell of claim 67, wherein said exogenous sequence is a selectable marker.

72. (Previously amended) The porcine cell of claim 71, wherein said selectable marker is selected from the group consisting of the neo^R gene and the hyg^R gene.

73. (Previously amended) The porcine cell of claim 67, wherein said exogenous sequence is flanked at its 5' and 3' ends by FRT DNA elements, and wherein stop codons have been inserted 3' to the selectable marker for each of the three reading frames for the porcine α -1,3 galactosyltransferase gene.

74. (Original) The method of claim 51, wherein said disruption is within exon 4, exon 7, exon 8, or exon 9 of the porcine α -1,3 galactosyltransferase gene.

75. (Original) The method of claim 51, wherein said exogenous sequence is a selectable marker.

76. (Original) The method of claim 75, wherein said selectable marker is selected from the group consisting of the neo^R gene and the hyg^R gene.

Applicant : Anthony J.F. D'Apice et al.
Serial No. : 08/984,900
Filed : December 4, 1997
Page : 6 of 8

Attorney's Docket No.: 06868-005002

77. (Original) The method of claim 51, wherein said exogenous sequence is flanked at its 5' and 3' ends by FRT DNA elements, and wherein stop codons have been inserted 3' to the selectable marker for each of the three reading frames for the porcine α -1,3 galactosyltransferase gene.

78. - 81. (Previously cancelled)